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Mongrel Nation

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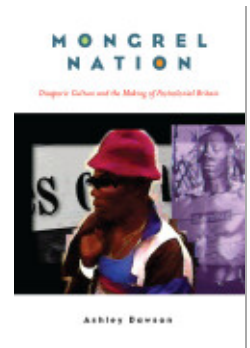
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Genetics, Biotechnology, and the Future of “Race” in Zadie Smith’s *White Teeth*

ON 12 FEBRUARY 2001, THE LEADERS OF TWO COMPETING TEAMS of scientists stood next to President Clinton at the White House to announce the results of their history-making research. With a little help from a private competitor, the multinational Human Genome Project had achieved its goal years ahead of schedule: the creation of the first draft map of the human genome. Few commentators found themselves immune to the hyperbole that characterized this unveiling. Ever since James Watson and Francis Crick created their elegant model of DNA’s double helical structure in 1953, the genome has been seen, in the words of Watson, as the “ultimate description of life.” According to Crick’s so-called central dogma, DNA genes have total control over inheritance in all forms of life. Our genes, in other words, contain the basic molecular code that determines everything from the number of toes on each of our feet to the number of points we score on IQ tests. By the time the Human Genome Project unveiled the draft map of the genome in 2001, expectations surrounding the benefits to be gained from molecular biology and biotechnology had become extremely inflated. For the first time, the lay public was told, human beings would not only be able to read their basic genetic recipe but also begin to make significant changes in this recipe. Yet the draft map of the genome also startled many members of the scientific community and the public. Even today, the extent

to which this map challenges the fundamental model of DNA as the “master molecule” has not been fully digested.

Much to everyone’s surprise, the work of the Human Genome Project revealed that people have only about thirty thousand genes. Scientists had long predicted a figure over three times as great based on estimates derived from analysis of the proteins manufactured by DNA. The significance of this numerical difference cannot be overstated. Human beings, it seems, have only 50 percent more genes than the roundworm, a humble creature with just 959 cells in its entire body.¹ We are no more genetically endowed than some common weeds. Genetically speaking, there is no more than a whisker of difference between us and our furry rodent relative, the mouse, which has only three hundred fewer genes than we do. Although the chimpanzee genome has not yet been decoded, its successful mapping is expected to deliver an even bigger thumping to human beings’ inflated ideas of our unique importance as a species.

In addition to unsettling our elevated place on the Great Chain of Being, the mapping of the genome also challenges Crick’s central dogma. Crick argued for a one-to-one correspondence between the nucleotide sequence of the genes and the amino acid sequence of the proteins that genes help produce. Yet if the human gene count is too low to match the number of proteins and the many inherited traits that they engender, then there is more to the “ultimate description of life” than the genes alone.² Although we are certainly influenced by our genetic inheritance, in no sense can it be said that our lives are determined solely by these genes. For instance, the isolated genome does not explain the substantial inherited differences between a person and a mouse, despite the striking genetic similarities between the two organisms. The biological determinism on which Crick’s central dogma was predicated cannot be sustained in the face of evidence for the complex and interwoven relationship between the genome, the particular organism in which the genome is embedded, and the broader environment that shapes and is in turn shaped by that organism.

Despite such accumulating evidence against Crick’s central dogma, biological determinism retains a strong grip on popular imagination as well as on scientific research. In the guise of sociobiology, in particular, such determinism has shaped commonsense perceptions of the genetic causes of intractable contemporary social problems such as crime, mirroring the turn toward dysgenics—the study of racial degeneration—as

an explanation for social breakdown a century ago.³ As Richard Lewontin argues, the mechanistic and atomistic worldview of the central dogma—in which genes make individuals, individuals make society, and, as a result, “selfish genes” determine human affairs—has a long genealogy stretching back through Darwin to Descartes.⁴ Such reductionism has long displayed great ideological utility by legitimating the competitive individualist ethos central to capitalist society.

If the decoding of the human genome has challenged our sense of the gulf that separates us from other species, what are the implications for traditional understandings of difference *within* our species? More specifically, what is the likely import of these startling revelations concerning the genome for contemporary representations of racial difference? Critics have recently begun to argue that advances in molecular biology will help produce a new raciological regime.⁵ As a result of the gradual diffusion of this research, discourses around “race” are shifting away from the model of population plasticity that characterized neo-Darwinian evolutionary theory during the period after 1945. In place of this social constructionist perspective, biologists are debating the meaning of “race” on the sub- and supraepidermal level of genetic variations and similarities within human populations from distinct parts of the globe.⁶ Increasingly, “race” is returning as a biological category, one lodged not in the shape of people’s skulls—as phrenologists argued during the nineteenth century—but in the shared intricacies of genetic code that, for instance, make many Ashkenazi Jews predisposed to develop Tay-Sachs disease and many people of African descent susceptible to sickle cell anemia.⁷ All too often, however, these similarities at the mitochondrial level are confused with commonsense racial designations that reflect the sociological, economic, and political disparities that disfigure our culture far more than precise demographic epidemiological classifications.⁸

To date, there have been relatively few fictional examinations of the genetic revolution’s social implications.⁹ A rare exception is Zadie Smith’s *White Teeth*. Although *White Teeth* garnered much critical acclaim for its lively embodiment of a supposedly “postracial” London, Smith’s work is perhaps most notable for its powerful qualification of optimistic readings of the novel forms that biopower is assuming today.¹⁰ *White Teeth* focuses on the extent to which one’s cultural and biological pedigree affect identity and belonging in contemporary Britain. The intersection of genetics and “race” is consequently a con-

sistent theme throughout the novel. In fact, the success of the novel attests to the enduring fascination with racial mixing and hybridity that characterizes our supposedly “postracial” epoch. *White Teeth* concludes, for instance, with a scene that mirrors the Human Genome Project’s spectacular announcement at the White House. In this scene, the many characters who orbit around one another throughout the novel converge at the Millennial Science Commission to witness the unveiling of Dr. Marcus Chalfen’s FutureMouse[®]. Chalfen intends to use his genetically customized “creation” as a site for experimentation into heredity. His naive belief in the pristine isolation of his enterprise from the political and social tensions that permeate the rest of the novel is brought crashing down to earth in this final scene, in which Smith demonstrates the high stakes associated with inheritance and reproduction. Although explicit racial violence does not figure in *White Teeth*, Britain’s colonial past weighs heavily on the novel’s characters, shaping their sense of identity and ramifying across the generations. The conflict that disrupts Marcus Chalfen’s press conference, leading to the escape of his FutureMouse and the ambiguous resolution of the novel, underlines the increasing politicization of biological and social reproduction in postcolonial Britain.¹¹

Contemporary discourses of biological determinism are gaining purchase in societies already saturated by forms of biopower.¹² Individuals make reproductive decisions, for instance, not in isolation but within the context of national immigration and citizenship legislation that stringently controls mobility, belonging, and collective identity through reference to heredity.¹³ In the case of Britain, such controls have become more rather than less racialized over the last half-century.¹⁴ In addition, the turn toward a post-Fordist mode of economic regulation since the 1970s has meant not simply the shift of production to the underdeveloped world, but also the increasing abandonment of state support for social reproduction in developed nations.¹⁵ Biological determinist constructions of racial difference in Britain such as those satirized in *White Teeth* therefore take root in a terrain already riven by racialized conflict. Within such a context, identification of the material substrate for specific forms of difference and inequality among human beings through genetic research is far more likely to lead to revived forms of eugenic discourse than to the disappearance of “race.” By exploring the contemporary return of eugenics, Zadie Smith’s *White Teeth* offers us a timely warning that the history of “race” is by no means over.

RACIOLOGY AND THE EUGENIC PAST

White Teeth begins with an epigraph: "What is past is prologue." Drawn from a museum in Washington, D.C., this epigraph highlights the inescapability of the past, a theme that frequently recurs throughout the novel. Why would Zadie Smith choose to emphasize the persistence of history in a novel that devotes much of its attention to the composite culture of second-generation black and Asian Britons? But *White Teeth* does not focus on second-generation youths alone; instead, it offers a salutary reminder of the intractable character of racial inequality by tracing the homologies that link the experience of different generations of black and Asian Britons. This flies in the face of accounts of our "postracial" moment. Despite the demonstrable intensification of stratification and inequality around the world, it has become commonplace for critics to argue that racial difference is no longer a salient social phenomenon. Such a perspective has gained credibility, ironically, as a result of the significant victories won by anticolonial and antiracist movements around the world over the last half-century.¹⁶

In conjunction with this political transformation, massive advances in molecular biology during the same period have established a new site for inquiry into human difference. As Paul Gilroy puts it:

When the body becomes absolutely penetrable, and is refigured as the transient epiphenomenon of coded invisible information, the aesthetic of epidermalization and its regime of power are irrecoverably over. The boundaries of "race" have moved across the threshold of skin. They are cellular and molecular, not dermal. If "race" is to endure, it will be in a new form, estranged from the scales respectively associated with political anatomy and epidermalization.¹⁷

According to Gilroy, mainstream genomic research has tended to reduce the body, the traditional scale at which "race" was defined, to no more than a lumbering robot whose every action and appearance is determined by invisible strings of DNA. Despite the reductive character of this genomic discourse, Gilroy has recently suggested that the emphasis on identity as code rather than ideological construct may foster the complete dismantling of racial classification. Gilroy sees a utopian outcome in which "at the smaller microscopic scales that open up the body for scrutiny today, 'race' becomes less meaningful, com-

elling, or salient to the basic tasks of healing and protecting ourselves.”¹⁸

While genetic code and physical traits do vary among human populations, such differences do not constitute a subspecies level of genetic differentiation, the biological definition of “race.” In fact, ethnic difference accounts for only 10–15 percent of the genetic variation that characterizes human beings. This means that there tends to be greater genetic variation between any two individuals of the same “race” than between people from different continents. There is, in other words, no empirical biological basis for the view that human beings belong to different “races,” a view that has helped legitimate social hierarchy since the early nineteenth century.¹⁹ Gilroy can therefore draw on significant empirical evidence to support his call for a radical non- or postracial humanism. But “race” thinking has had a long history, one in which shifting scientific paradigms have all too easily been appropriated by those wishing to perpetuate social discrimination.²⁰ Zadie Smith’s *White Teeth* confronts the dystopian possibilities of current research into genetics by reminding us of this long history.

Using a variety of comic modes, *White Teeth* satirizes the insecurities that beset residents of postcolonial, multiracial Britain near the end of the millennium, and connects such insecurities to issues of belonging and “race.” The novel begins, however, during World War II, and subsequently traces the history of its two principal protagonists, Samad Iqbal and Archie Jones, and their families across the half-century in which the anticolonial and antiracist movements achieved their great victories. The novel’s historical setting allows Smith to examine the history of eugenics, focusing on the moment that seemingly discredited the movement for good: the Holocaust. Yet by tracing an arc across the following fifty years to the present, *White Teeth* underlines the tenacious hold that biological determinism has had on the popular imagination. By the novel’s conclusion, the eugenic culture that the so-called People’s War seemed to have obliterated makes an unsettling return. Sparing no one, Zadie Smith satirizes both the ethically obtuse scientists who are responsible for this reawakened research as well as their fanatically doctrinaire opponents.

Marcus Chalfen’s FutureMouse—the embodiment of the tightly knit utopian and dystopian possibilities of the new biotechnologies—is liberated by Archie Jones. While sitting in the audience at the Millennial Science Commission, this perpetually dithering working-class English-

man overhears Chalfen thanking his mentor, Dr. Marc-Pierre Perret. Perret's name and the sight of his bloody tears, the product of a hereditary diabetic condition, take Archie back half a century to an abandoned mansion in the war-torn Balkans. World War II has ended while Archie and his comrade Samad Iqbal sit ignominiously waiting for relief with their dead comrades in a broken-down Churchill tank. Samad decides to capture Perret after advancing Soviet troops inform him that the diabetic Frenchman ironically turns out to have been an important figure in the Nazi eugenics program. The confrontation with Perret represents not simply a stab at the glory that has eluded Samad on the battlefield but also a decisive rejection of the Nazis' attempts to control the future through racial engineering. Since the Soviet troops have not yet liberated the "work camps" in Poland, Archie and Samad have no idea of the full horror of the Holocaust. Despite his ignorance of the lengths to which the Nazis took their eugenics program, Samad sees Perret's work as the ultimate heresy. For Samad, eugenics is predicated on an intrinsically blasphemous project of wresting control of human destiny away from Allah.²¹ Their treatment of Perret, Samad tells Archie, is intimately tied to the larger moral questions at stake in the war against totalitarianism.

Despite their eccentric geographical location in Bulgaria, Samad and Archie's encounter with the man the local villagers call Dr. Sick raises fundamental questions about European culture. *White Teeth's* focus on eugenics and racial hierarchy reveals the contradictions of the Allied cause, and thereby troubles the dichotomous distinction between Allied democracy and Axis totalitarianism. This model, Smith's novel suggests, helps obscure the historical complicity of the Allies with the racial doctrines implemented by the Nazis. Following the fall of the Third Reich in 1950, UNESCO issued a now-famous statement shaped by the Holocaust that declared the invalidity of established conceptions of "race." Authored by a student of the antiracist ethnographer Franz Boas, the UNESCO document repudiated a tradition of scientific thinking developed in Europe since the eighteenth century.²² Yet if the Nazis' genocidal policies catalyzed a sweeping rejection of eugenic thought throughout the Western world, they also concealed the extent to which such policies had become common sense among many segments of the population in the United States and Europe. The history of widespread popular acceptance of eugenics before the war—including the notion that heredity rather than economic, social, and cultural factors determine the status of racial groups—has conveniently been

expunged from collective memory over the last half century.

Most significantly, Samad and Archie's encounter with an apostle of Nazi raciology highlights the return of colonial racial doctrines to the European heartland that took place in the first half of the twentieth century.²³ The prominence of eugenic thought before the Second World War was intimately related to the imperial ambitions of the European nations in which raciological science was conducted. As scholars such as Ann Stoler have argued, dominant forms of nineteenth-century European identity were shaped in an imperial landscape where notions of racial purity and sexual virtue were paramount.²⁴ These discourses of imperial propriety linked conceptions of class, "race," and gendered identity, generating a series of exclusionary social taxonomies that had a profound impact on popular consciousness and the metropolitan state. Fears about the dilution of supposedly pure Aryan bloodlines and culture led, for example, to the construction of micro-sites of identity around issues such as parenting, education, and tropical hygiene.²⁵ In addition, Gobineau's argument that empires decline because of the racial mixing that accompanies their expansion was widely disseminated and helped foster state policies designed to mitigate the degenerative impact of ersatz citizen-subjects. In the United States, for example, thirty states had adopted sterilization laws for the "mentally defective" by 1924, the year in which Congress passed legislation restricting immigration of "inferior stock" from southern and eastern Europe.²⁶ Britain, a pioneer in eugenic science during the first half of the twentieth century, only narrowly avoided passing similar measures in the face of almost uniform support from the scientific and political establishment.²⁷ Such examples of biopower demonstrate the extent to which the modern nation has been produced in conjunction with forms of racial discrimination developed on colonial terrain.

Innovations in the biological sciences played a fundamental role in the advance of eugenics policies during the first half of the twentieth century. These innovations were firmly rooted in genetic determinism, which Richard Lewontin argues has been the baseline ideology within biology except for the brief period after World War II that produced the UNESCO statement on "race."²⁸ The demonstration by geneticists such as Gregor Mendel and August Weismann of the continuity of the "germplasm" (the contemporary term for DNA) suggested that inherited traits were immune to environmental influences. Consequently, social Darwinists in both Europe and the United States reasoned that no

amount of cultural assimilation would eradicate the inherited qualities of purportedly inferior "races" such as the Jews. If geneticists like Ernst Haeckel advocated the elimination of undesirable traits through a positive eugenic program of selective breeding, it was left to the Nazi Party to implement a negative eugenic policy: the systematic elimination of degenerate germplasm through genocide. While there were obviously economic motives behind the expansionism of the Axis powers, doctrines of racial superiority played a decisive role in mobilizing popular support for war. Soldiers from Germany, Italy, and Japan went to war saturated with eugenicist doctrines concerning racial superiority that echoed those used by the liberal democratic nations to legitimate their own colonial projects.

Samad and Archie's confrontation with Dr. Sick at the tail end of the war in *White Teeth* therefore needs to be seen within the context of the racial doctrines mobilized by both the Allies and the Axis powers. In World War I, imperial nations such as France and Britain had employed colonial troops with great reluctance. Military service was equated in these countries with citizenship and manhood. The prospect of colonial troops serving side by side with Europeans in the military consequently threatened to expose and undermine the racial hierarchies that cemented European power in the colonies. In the circumstances of labor shortage that attended "total war," however, colonial workers and troops were drawn into the military. In both of the wars, military service helped generate a feeling of entitlement among colonial soldiers, who saw their sacrifices for the mother country as entailing reciprocal obligations that challenged the forms of economic and political subordination on which colonialism depended.²⁹ In fact, leaders of the Indian independence movement openly defied colonial authority before World War II by demanding, before they agreed to support the war, the application of the Atlantic Charter's promised "restoration of sovereignty, self-government, and national life" to the colonies as well as Europe.³⁰ In addition, regular contact with European servicemen and civilians allowed colonial soldiers to trespass the rigid social and sexual boundaries that helped legitimate hierarchies of "race" and class in the colonies.

But Zadie Smith's character Samad is fighting for more than just his rights as a British subject. As was true for many soldiers from the colonies, his quest for glory in the European war is motivated primarily by his desire to sustain family honor.³¹ Indeed, Samad is driven by a

sense of inheritance that ironically mimics the genetic determinism that burgeoned among Europeans in the colonial context. As the great-grandson of Mangal Pande, the first upper-caste native soldier in the Bengal Army to rebel against British authority in what Victorian imperialists called the Sepoy Mutiny, Samad sees himself as the descendent of the Indian independence movement's progenitor. Yet despite the fact that "nothing was closer or meant more to him than his blood" (83) Samad's attempts to demonstrate the nobility of his bloodline are thwarted at every turn in the novel. Unfortunately for Samad, British colonial historians have represented Mangal Pande in less than the heroic light he deserves, turning him into an intoxicated and incompetent buffoon who unwittingly got caught up in the sweep of history (212). Wittily drawing on the analysis of the subaltern studies collective, Zadie Smith uses the case of Samad's great-grandfather to demonstrate the extent to which the historical record can be manipulated to serve the interests of those in power.³² Samad's actions throughout the novel are dictated by the consuming drive to wipe away the stain on his family honor perpetuated by colonial historiography.

Tied to this humiliating representation of Samad's forefather as a coward is his dismay at the failure of his illustrious genealogy to manifest itself in his own life. Indeed, the more uncertain Samad grows of his genealogical roots, the more fearful he becomes about his own failure and dissolution. Samad's wartime experience thus undermines genetic determinism by demonstrating that intrinsic hereditary identity seldom triumphs over adverse environmental conditions. After having his hand blown apart by an incompetent Sikh sapper, Samad finds his promising career as an aviator quickly aborted. He ends up as a tank radio operator in the "Buggered Battalion," a collection of misfits whose homophobic nickname underlines the connection between constructions of martial masculinity and national identity. Eugenicists historically associated both racial hybridity and homosexuality with sterility and degeneracy. Samad's internalization of these values is evident when his failure to live up to his ancestor's heroic legacy leaves him feeling like a bastard whose mixed English and Bengali cultural identity has destroyed his masculinity.

This fear of cultural bastardization and illegitimacy overwhelms Samad as he leads the attack on Dr. Sick's mansion. One of the Bulgarians he and Archie are leading up the hill protests that this is a battle of the West, something that has nothing to do with him. Samad flees into

the night on hearing this line. When Archie finds him, Samad is contemplating suicide: "What am I good for, Jones? If I were to pull this trigger, what will I leave behind? An Indian, a turncoat English Indian with a limp wrist like a faggot and no medals that they can ship home with me" (95). Samad has realized that he has become a mimic man, a colonial subject attempting to conform to the contradictory dictates of assimilation set out by the empire. As an Indian, he cannot become an officer in the British army, despite the uniform he has purloined from his dead CO.³³ Furthermore, his attempts to win glory fighting for the British in Europe are hardly in keeping with the anticolonial efforts of either his great-grandfather or of the contemporary Indian independence movement. Far from finding confirmation of his martial bloodline in the war, Samad is overcome by feelings of displacement and dishonor that he immediately equates with the lack of manhood and sterility traditionally associated with homosexuality. As a result of this crisis, Samad is unable to execute Dr. Sick himself, and instead pushes Archie to carry out the act in the name of an aggrieved Europe. This decision is bitterly ironic given the fact that the Nazis first experimented with genocidal policies in their African colonies before deploying these policies in Europe.³⁴

The idea that blood will tell was a fundamental conceit in nineteenth-century novels written under the influence of social Darwinism. Characters like Dickens's *Oliver Twist* escape the poorhouse and regain their rightful place in society as their aristocratic blood triumphs over the destitution into which they have erroneously fallen.³⁵ Genetic determinism was even more evident in novels written in a colonial context. European genes alone ultimately redeem the shape-shifting Asian childhood of Rudyard Kipling's *Kim*, for instance.³⁶ As *Kim* demonstrates, the ideology of genetic determinism helped legitimate the European imperial mission during the nineteenth century, while reassuring colonial functionaries that their exposure to non-European social conditions would have limited impact on them as long as they observed the correct protocols. Focusing on the impact of such colonial racial beliefs on the European homeland, *White Teeth* returns to World War II in order to underline the pernicious character of such determinist beliefs and to stress the impact of social inequality on individual identity. Although the novel does not directly engage the Holocaust, the specter of genocide lurks in the background of Samad and Archie's clumsy attempts at heroism. In addition, Samad's frustrated belief in the inher-

ent nobility of his blood and his contradictory indictment of Nazi eugenics policies dramatize the extent to which notions of genetics and identity were a force in the recent past. The return of eugenics in *White Teeth* suggests that the history of raciology needs to be borne in mind as new forms of eugenics surface in contemporary culture.

THE PITFALLS OF HYBRIDITY

Thirty years after this fateful encounter with Dr. Sick, Samad winds up working as a “curry-shifter” in an Indian restaurant in London’s West End. Through Samad’s misadventures in multicultural London, Zadie Smith interrogates current theories of diasporic identity. Black and Asian cultures in Britain have been taken by prominent postcolonial critics to exemplify forms of cosmopolitanism that undermine reified models of cultural identity.³⁷ The claims of such critics to be representatives of ethnic minorities have, however, been rendered hollow by the growth of ethnic primordialism within Asian and black communities.³⁸ In addition, although theories of hybridity are intended to challenge exclusionary models of belonging, they suffer from their own forms of determinism as a result of their programmatic assertion of diasporic cosmopolitanism. All too often, this analysis simply inverts the dominant tropes of colonial discourse by representing diasporic populations as inherently progressive. Such hybridity putatively occurs at the cultural level, but since the approach of critics like Homi Bhabha contains precious little analysis of differentiating social factors such as class, gender, regional provenance, and religious affiliation, it often appears that postcolonial migrants are inherently, even biologically, destined to adopt antiessentialist, cosmopolitan identities.³⁹ *White Teeth* self-consciously parodies the biological determinism of much hybridity discourse through its depiction of Samad’s transformation in Britain.

The temptation of Samad Iqbal begins in his children’s school. Nearly a decade into a marriage with a bride—the pugnacious Alsana—a quarter-century his junior, Samad has become sexually frustrated. His attempts to conform to divine dictates by resisting the temptation to masturbate have failed miserably and he has become an apostate wanker. His body, he confides to a fellow waiter, has grown mutinous in an outward sign of his corruption by England (120). This feeling of contamination by the West worsens once Samad initiates a doomed affair

with Poppy Burt-Jones, his sons' music teacher, whose double-barreled name succinctly communicates her exemplary Englishness. Despite the ridiculously extravagant Orientalist stereotypes that attract Poppy to Samad, the affair heightens his sense of corruption to the point that he becomes haunted by the apparition of his ancestor Mangal Pande, whom he increasingly sees as a paradigm of cultural nationalist resistance to the colonial destruction of tradition.

Samad's fear of corruption by the West can be placed within the context of the increasing racialization of culture that has taken place in Britain during the postwar period. Despite the persistence of overt forms of institutional and popular discrimination based on "race," commentators have argued that the predominant trend during the period after 1945 has been toward forms of discrimination based on *cultural* rather than biological difference.⁴⁰ As the infamous "cricket test" that Zadie Smith uses as an epigraph to this section demonstrates, national belonging tends today to be judged by cultural criteria such as an individual's loyalty to the English—as opposed to the Pakistani or West Indian—cricket team. However, fears such as those articulated by Margaret Thatcher of "swamping" by "alien cultures" only thinly veil the underlying concern with national reproduction that has been an increasingly important factor in debates about immigration and citizenship during the postwar period.⁴¹ Widespread revulsion against state-based eugenic projects following the Holocaust has tended to occlude the extent to which definitions of national belonging and culture have been racialized in a manner wholly in keeping with long-standing models of population control. Such policies have, however, shifted from a focus on maintaining metropolitan national reproduction in the context of interimperial rivalries during the first half of the twentieth century to one of excluding migration from former colonies during the postcolonial era. Such restrictive immigration policies have been accompanied by the criminalization of blackness through draconian policing strategies.⁴² Thus, although ethnic minority populations in Britain after 1945 have not been subjected to official eugenic measures such as methodical sterilization campaigns, it is important to note that their excision from the national body politic has been more than simply a symbolic one.⁴³

In reaction to such forms of state biopower, ethnic minority groups have often responded by advancing cultural nationalist counterdiscourses. Although such defensive moves obviously lack the links with

institutional racism that characterizes dominant discourses, all too often such counterdiscourses reproduce the very homogenizing and essentialist sense of identity they are reacting against. Samad's fear of dissolution evokes precisely this replication of dominant values. Indeed, mirroring classic eugenicist discourse, Samad equates cultural intermixture with corruption and decadence. The failure of his heroic ambitions during the war, the maddeningly humble circumstances of his life in Britain, and his guilt over the affair with Poppy push Samad to adopt what Paul Gilroy has termed "ethnic absolutism." For Gilroy, the narrow cultural nationalism of some black antiracist groups fragments broader definitions of blackness grounded in resistance to racism.⁴⁴ Like Gilroy, Zadie Smith challenges this trend toward insular constructions of ethnic identity by tracing Samad's hilariously unsuccessful attempts to shoehorn himself into the mold of a purified and essentialist cultural identity. Nationalist fears of penetration are, *White Teeth* suggests, mild in comparison to the immigrant's fear of dissolution (272). As the novel's narrator comments, Samad's search for his roots proves increasingly constricting and ultimately corrupting:

If religion is the opiate of the people, tradition is an even more sinister analgesic, simply because it rarely appears sinister. If religion is a tight band, a throbbing vein, a needle, tradition is a far homelier concoction: poppy seeds ground into tea; a sweet cocoa drink laced with cocaine; the kind of thing your grandmother might have made. To Samad . . . tradition was culture, and culture led to roots, and these were good, these were untainted principles. That didn't mean he could live by them, abide by them, or grow in the manner they demanded, but roots were roots and roots were good. You would get nowhere telling him that weeds too have tubers, or that the first sign of loose teeth is something rotten, something degenerate, deep within the gums. (161)

Although *White Teeth's* comic mode encourages the reader to retain a sense of wry sympathy for alienated characters like Samad, the novel also uses his misbegotten essentialism to satirize the currents of religious and cultural fundamentalism that have polarized the public sphere in contemporary Britain.⁴⁵

After beginning his affair with Poppy, Samad's apprehensions over impurity increasingly center on his twin sons' identity. The more he

feels his own identity fragmenting, the more Samad insists on imposing a rigidly conceived ethnic and religious identity on his sons. He fears, for example, that English cultural forms like the "pagan" Harvest Festival organized by Magid and Millat's school are corrupting his sons. Worse still, Samad finds out that Magid has been telling his schoolmates that his name is "Mark Smith," while Millat dreams of becoming a rock star like Bruce Springsteen. What Samad misses in his consternation at this apparent total assimilation of Western culture by his twin sons is the constant negotiation and code-switching they engage in as ethnic minorities in Britain.⁴⁶ Instead of helping them in their struggle to create viable composite identities, he decides to free them of the constant cravings of the West by returning them to the East. Since he cannot afford airfare for both twins, Samad splits his twins apart, sending the more intellectually inclined Magid back to Bangladesh, where he hopes he will become a holy man, while keeping the more rebellious Millat with him in Britain. Unable to remain *halal* himself, Samad tries to determine his sons' identity through transformation of their environment. This strategy is ironic given his earlier rebellion against Dr. Sick's attempt to control human fate through eugenic engineering. As his wife notes, Samad frequently declares that Allah alone determines people's fate, and yet he himself engages in overweening attempts to control the lives of others.

The chapter describing the splitting apart of Magid and Millat is named, appropriately, "Mitosis." Through the division and replication of a single cell, Mitosis produces identical genetic material in each of the new cells. This biological reference highlights the fact that the boys are identical twins, and are therefore indistinguishable in genetic terms. Similarities and differences between the two of them as they grow up in isolation should reflect the countervailing effects of, respectively, heredity and environment. When he separates his twin sons, Samad is unwittingly engaging in an experiment similar to that used by biologists over the last half-century to assess the impact of genetic inheritance. Such experiments were initially undertaken by scientists interested in demonstrating the cultural construction of identity, a view that had gained widespread acceptance among social scientists following the turn away from genetic determinism after World War II. Reacting against the environmental determinist dogma of Lysenkoism in the Soviet Union, however, biologists challenged this model during the development of molecular genetics in the 1960s and 1970s by performing experiments with

simple organisms whose traits of rapid development tended to minimize the effects of the environment.⁴⁷ Although recent trends in biology have emphasized developmental plasticity and thereby acknowledged the key role the environment plays in triggering phenotypical variation, the long-standing repudiation of environmental determinism within the scientific community has had a strong impact. As the controversy over *The Bell Curve* suggested, rigid genetic determinism has regained credibility within the social sciences. Naturally, studies of separated twins are increasingly seen as providing evidence for the role of the genes in determining identity, despite the fact that such studies usually measure cultural similarities in the extended families in which such twins are placed rather than basic genetic determination.⁴⁸

White Teeth satirizes Samad's belief in cultural determinism as well as his dogmatic pride in his lineage by depicting the unexpected maturation of the separated twins. For despite their identical genes, Magid and Millat become polar opposites, as Samad might have hoped, but in exactly the opposite way to what he expected. Growing up in the disaster-prone environment of Bangladesh, Magid is drawn into the orbit of an Anglophile professor and comes to believe that the West alone is capable of imposing order on the chaotic world he finds in the East (239). This transformation upsets Samad's expectation that Magid would mature into a submissive disciple of Islam in the putatively pure environment of the East. As Edward Said has emphasized, imperialism and its postcolonial supplements such as neoliberal globalization have fostered a world of intermixed identities that run counter to fundamentalist or cultural nationalist perspectives.⁴⁹ The absolute separation between East and West that Samad dreams of is an illusion, and even after he separates them his sons are constantly constructing new identities based on composites of the interpenetrating cultures of East and West.

If Magid's transformation into an anglophile dandy undermines Samad's illusions of cultural purity, Millat's metamorphosis into a hybrid homeboy emphasizes the constant process of negotiation between different cultures that characterizes second-generation immigrants to an even greater extent:

Raggastanis spoke a strange mix of Jamaican patois, Bengali, Gujarati, and English. Their ethos, their manifesto, if it could be called that, was equally a hybrid thing: Allah *featured*, but more as a collective big brother than a supreme being, a hard-as-fuck geezer

who would fight in their corner if necessary; kung fu and the works of Bruce Lee were also central to the philosophy; added to this was a smattering of Black Power (as embodied by the album *Fear of a Black Planet*, Public Enemy); but mainly their mission was to put the Invincible back in Indian, the Bad-aaaass back in Bengali, the P-Funk back in Pakistani. (192)

This bravura description of Millat's "raggastani" ethos draws on cultural studies analysis of youth subcultures in Britain, which has traditionally focused on the symbolic resistance of such subcultures to class- and age-based forms of social hierarchy.⁵⁰ Subcultures, critics such as Dick Hebdige argue, challenge hegemonic meanings and ideologies through acts of bricolage that transform and denature the accepted meanings of commodities and media images.⁵¹ Following this subcultural mode, Millat and his raggastani crew appropriate highly masculinist popular cultural icons such as Bruce Lee and the godfather to articulate a militant sense of Asian pride.

However, there is a nagging contradiction within this act of bricolage: the extremely cosmopolitan pastiche of cultural influences that constitute "raggastani" identity are used to legitimate an increasingly essentialist and exclusionary model of ethnic identity. Indeed, despite their syncretic blend of diasporic cultures, Millat and his friends participate in an event that has been taken as a key flash point in the rejection of pluralist values: the burning of Salman Rushdie's novel *The Satanic Verses* in Bradford. As Millat becomes increasingly involved in Islamic militancy, Zadie Smith dramatizes the clash between the Hollywood inspiration for his macho identity and the anti-Western orientation of Islamic fundamentalist doctrine. Millat's tragicomic cultural bastardization also reproduces his father Samad's failure to cleave to his own ideals of purity. Through this satirical portrait of the instabilities in Millat's and Magid's cosmopolitan identities, *White Teeth* depicts the unexpected political outcome of diasporic hybridity and thereby undermines facile models of both genetic and cultural determinism.

THE CLASH OF FUNDAMENTALISMS

How are we to gauge the prominence of racial difference in the "post-human" future that biotech commentators such as Francis Fukuyama

have begun analyzing?⁵² One place to start is by examining the enduring salience of “race” in the supposedly postracial present. *White Teeth* comments acidly on the contradictions in contemporary middle-class discourses of multiculturalism through its portrait of the molecular biologist Marcus Chalfen and his wife Joyce. Despite being religious and ethnic minorities, as middle-class intellectuals the Chalfens ironically offer a paradigm of successful Englishness to Archie and Samad’s second-generation kids. For the Chalfens, in turn, Archie and Samad’s children incarnate titillating forms of cultural, racial, and class difference that inject spice into their otherwise predictable lives. Rather than dwelling on the explicit racism of characters like the aged officer and repugnant bigot J. P. Hamilton, Smith focuses her critique on the far more subtle bias of bourgeois white Britons such as the Chalfens. For example, *White Teeth* pillories Joyce Chalfen’s fashionable interest in difference—and the sexual voyeurism that underlies this interest—through the horticultural descriptions in her fictitious book *The New Flower Power*:

The fact is, cross-pollination produces more varied offspring, which are better able to cope with a changed environment. It is said cross-pollinating plants also tend to produce more and better-quality seeds. If my one-year-old son is anything to go by (a cross-pollination between a lapsed-Catholic horticulturalist feminist and an intellectual Jew!), then I can certainly vouch for the truth of this. (258)

Using Joyce’s risibly anthropocentric language of cross-pollination, Zadie Smith mocks postcolonial accounts of hybridity, which *The New Flower Power* apes perfectly. As Robert Young has argued, the currency of *hybridity* as an antiracist term is quite ironic since it is deeply embedded in precisely the kinds of fetishistic classification of difference that characterized nineteenth-century raciology.⁵³ Joyce’s horticultural language underlines this link, allowing Smith to satirize modish talk of racial mixing. In addition, like many recent accounts of hybridity that promote an ahistorical model of diasporic identity, Joyce’s description of cross-pollination suggests that hybrid plants have an inherent biological superiority over their thoroughbred competitors that makes them particularly adept at surviving in a rapidly changing environment. As we have seen, although critique of exclusionary models of identity is

laudable, sweeping claims for the cosmopolitan and progressive character of diasporic communities seem far too simplistic in the wake of events such as the Rushdie affair.

Because of her interest in cross-pollination and difference, Joyce is transfixed when Millat and Irie Jones, Archie's mixed-race daughter, are sent to the Chalfens' home for tutoring after they misbehave at school. The fetishistic quality of her fascination with otherness quickly becomes apparent, however, as Millat and Irie are integrated into the Chalfen household. Irie is fascinated by the Chalfens' extrovert intellectualism, and does her best to adopt the middle-class manners and mores of the Chalfens. Millat, by contrast, is more interested in gaining access to lazy bourgeois money than intellectual capital. Predictably, the more Irie attempts to conform to what the family calls Chalfenism, the less interesting she is to Joyce. By contrast, the more Millat goes off the rails, the more Joyce becomes fascinated with his problematic identity. As Millat becomes increasingly embroiled with a blundering but militant Islamic group that feeds his teenage dreams of righteous rebellion, Joyce treats his growing cultural nationalism as a curiosity and psychological conundrum rather than a political stance. Joyce's myopic support of Millat offers an implicit comment on the politics of institutional multiculturalism in Britain, whose advocates have a history of taking the most extreme forms of cultural difference to be the most authentic expressions of collective identity. Multiculturalism has therefore become a target of criticism in Britain because of its unwitting tendency to further reactionary currents within ethnic minority communities. As activists with the British group Women Against Fundamentalism have argued, conservative religious leaders have been among the greatest beneficiaries of the adoption of multiculturalist norms since these measures have allowed them to depict challenges to their programs as racism.⁵⁴ Joyce's role in abetting Millat's turn to militant Islam despite her putatively progressive outlook underlines the contradictions of multiculturalist dogma.

Like his wife, Marcus Chalfen is deeply invested in questions of hybridization and has a Panglossian belief in the progressive outcome of such processes. As a result, he expresses utter disdain for those who challenge the ethical prerogatives of his genetic experiments: scientific and social progress, Marcus believes, are "brothers-in-arms." Yet *White Teeth* introduces a note of sweeping hubris in its description of Marcus's scientific endeavors:

He went to the edges of his God's imagination and made mice Yahweh could not conceive of: mice with rabbit genes, mice with webbed feet (or so Joyce imagined, so didn't ask), mice who year after year expressed more and more eloquently Marcus's designs: from the hit-or-miss process of selective breeding, to the chimeric fusion of embryos, and then the rapid developments that lay beyond Joyce's ken and in Marcus's future—DNA microinjection, retrovirus-mediated transgenesis (for which he came within an inch of the Nobel, 1987), embryonic stem cell-mediated gene transfer—all processes by which Marcus manipulated ova, regulated the over- or under-expression of a gene, planting instructions in the germ line to be realized in physical characteristics. Creating mice whose very bodies did exactly what Marcus told them. And always with humanity in mind—a cure for cancer, cerebral palsy, Parkinson's—always with the firm belief in the *perfectibility* of all life, in the possibility of making it more efficient, more logical. (259–60)

Marcus's facile belief in the sanctity of his research skirts the complex ethical questions that Zadie Smith's account of his enterprise raises. By harnessing the awesome but still poorly understood power of recombinant DNA, Marcus is able to engage in forms of cross-pollination that completely eclipse the hybridization processes described in his wife's writing.⁵⁵ Human beings have been domesticating and breeding plants and animals for over ten thousand years, but we have always been restrained in our attempts to hybridize our creations by the natural limits imposed by species boundaries. Recombinant DNA overcomes these limits by manipulating genes themselves. In his experiments with mutant mice, Marcus is part of the contemporary attempt to initiate a new biotechnological era in which all life-forms can be transformed into factories for the production of commodities. Indeed, the genetic code of life itself is increasingly being commodified in what critics such as Vandana Shiva see as the final stage of primitive accumulation.⁵⁶ By placing himself in this godlike position, Marcus opens a Pandora's box of issues relating to the ramifications of genetic research.

Yet, like many scientists and entrepreneurs in the booming biotech industry, Marcus Chalfen refuses to engage in debate concerning the potential ecological and social perils associated with genetic engineering.⁵⁷ Marcus has no time for science studies scholars, who challenge the ideology of scientific objectivity by insisting on the role played by

researchers in reflecting and reinforcing the dominant values of their society. He similarly spurns activists who question the ethics of his experiments on animals. His arrogance and insularity are threatened, however, by a young woman he meets at Heathrow airport while waiting for Magid's return from Bangladesh. Her identity as an Asian and a Hindu, she explains to Marcus, make her see some highly dystopian sides to biotechnology. She goes on to amplify this point by describing her fears concerning the potential use of pathogenic organisms by the West against the East, the creation of racial hierarchy through genetic engineering, and the destruction of the sanctity of life (345). Marcus is unhinged by what he sees as the lurid neofascist possibilities the young woman extrapolates from his work. Caught up in the minutiae of scientific research and discovery and in thoughts of the potential medical benefits to be derived from his work, Marcus is unprepared to submit himself to ethical scrutiny by the general public.

Yet as critics like Jeremy Rifkin have argued, genetic engineering technologies are by their very nature eugenics tools.⁵⁸ Unlike the eugenics movements of the early twentieth century, the new biotechnology is driven not by totalitarian ideologies of national/racial uplift but by market forces and consumer desire. Nevertheless, reproductive technologies such as prenatal testing that diagnose untreatable genetic disorders already force decisions on families and individuals that are inherently eugenic. Parents will face increasing pressure to use new biotechnologies in order to protect their unborn children from hereditary diseases as these technologies become more widely available. But these pressures are inherently social, and their potentially inegalitarian uses will increase pressure for state intervention.⁵⁹ What, for example, will constitute a genetic "defect"? As Rifkin notes, disability rights advocates are already questioning the eugenic implications of such language, wondering whether people like themselves will be seen simply as errors in the code.⁶⁰ Likewise, Francis Fukuyama hypothesizes that a genetic "cure" for homosexuality would push individuals to engineer heterosexual children for themselves, leading to greater discrimination against those born queer and to the eventual elimination of homosexuality.⁶¹ The potential for drastic amplification of the already wide race-based disparities of life opportunities as a result of privatized eugenics is just as alarming. In this vein, *White Teeth* examines Irie Jones's self-hatred as a result of her genetic inheritance of kinky hair and a buxom body. Her painful attempts to straighten her hair and to become a Chalfen high-

light the difficult questions concerning identity, race, and hegemony that biotechnology will increasingly place before us.

Stung by the complex ethical questions raised by the young woman he meets at the airport, Marcus leans increasingly on Magid, who has arrived in Britain intent on helping him eliminate chaos from the world. The center of this grandiose project is Marcus's FutureMouse, a creature genetically engineered to develop specific cancers in specific tissues at specific times. As Marcus laconically comments in a moment of defensive sarcasm, "You eliminate the random, you rule the world" (283). Notwithstanding such derisive banter, Marcus's project of total control is scientifically unfeasible. As we saw earlier, an organism's environment plays a vital role in determining the expression of its genes. However, even if it were possible to control both the genes of a developing organism and the complete sequence of its environments, one could not maintain total control over the organism because of random variations in the division and growth of cells that occur during development.⁶² This chance element, known as developmental noise, undermines the rigid genetic determinism and totalitarian desire for control implicit in Marcus's project.

Despite the fact that Marcus's hubristic experiment is doomed to fail, the public takes the FutureMouse very seriously. In a slap at the commodification of science that has accompanied the biotechnology boom, *White Teeth* traces the rise of controversy surrounding the FutureMouse as a result of Magid's public relations campaign. In the press releases he gives to Irie to disseminate, Magid describes the creature as the herald of a new phase in history in which human beings will not be "victims of the random but instead directors and arbitrators of our own fate" (357). Magid's desire for control over fate should not be so surprising given his own traumatic life experience. This aspiration, however, is just as doomed as Marcus's genetic determinism. In a hilarious depiction of contemporary clashes over biotech, Marcus and Magid's joint project to win public support for genetic engineering runs afoul of groups whose religious and ethical beliefs are challenged by the FutureMouse.

The press conference at which the mouse was to have made its triumphant debut is disrupted by two such organizations in particular: Millat's posse, the Keepers of the Eternal and Vigilant Islamic Nation (KEVIN), and a militant animal rights group named Fighting Animal Torture and Exploitation (FATE), to which Marcus's son Joshua

belongs. As one might imagine from their ludicrous acronyms, Zadie Smith satirizes both of these groups mercilessly.⁶³ Joshua seems animated more by the cleavage of FATE's sexy female leader than by the group's quasi-theological discussions of animal rights, while Millat's Islamic militancy is more a product of Scorsese films than of the Koran. Nevertheless, despite the personal foibles of both groups' members, *White Teeth* makes FATE and KEVIN the mouthpieces for the two dominant critiques of biotechnology: the theological and the ethical. Although the novel does not dwell on the moral objections of either group in detail, their opposition to the reification and commodification of life represents a potent challenge to the strain of biological determinism evinced most clearly in the FutureMouse. In addition, despite the fact that the clash between these groups and the scientific establishment that takes place at the unveiling of the FutureMouse is not resolved, the renewal of conflict over the control of genetic inheritance reminds us that the legacy of eugenics and raciology is very much alive.

CONCLUSION

Archie's flashback to World War II during the unveiling ceremony for the FutureMouse underlines the legacy of raciological science that lies at the heart of contemporary biotechnology. Through this flashback, we learn that Archie was unable to execute Doctor Perret—aka Dr. Sick—and that this proponent of Nazi eugenics emerged after the war to become Marcus Chalfen's mentor and director of the institute at which the FutureMouse unveiling is taking place. The replication of events during World War II is explicit in the novel's finale. Reenacting the scene in the Balkans, Millat attempts to strike against what he perceives as a blasphemous scheme to wrest control of human fate away from God by putting a bullet into Marcus Chalfen. Once again, Archie chooses clemency, and throws himself in front of Millat's gun at the last second. This time, however, the reader understands more clearly what is at issue in Archie's action. During Archie's flashback to the war, Perret describes his confidence that human perfection can be achieved if only hard decisions concerning who will survive and who won't are made (446). In saving Marcus Chalfen, Archie therefore acts in a manner that contradicts Perret's chilling eugenic philosophy. As he falls to the ground wounded, Archie sees the FutureMouse escape from his cage

and, in the midst of the ensuing commotion, head down a nearby mousehole. Chance and human solidarity thereby disrupt the carefully scripted life of the FutureMouse.

The Millennial Science Commission, the dramatic setting for these events, bears more than a passing resemblance to the sensational press conference organized by the Human Genome Project at the White House in 2001. Like the concluding scene of Smith's novel, the White House ceremony revealed more than just scientific research. The map of the human genome released by the government-funded research team was only unveiled at this point as a result of an agreement with their private competitors at the Celera Genomics Corporation.⁶⁴ Having decoded the mouse genome in 1999 and made the map available by subscription only, the entrepreneurial director of Celera, Dr. J. Craig Venter, had promised to beat the international public consortium by using a new method of genetic decoding. Competition with Venter's private firm obviously pushed the international consortium to complete its draft far more quickly. However, it also clearly delineated the character of future conflicts over access to the genetic information that helps shape all living creatures. For Celera did not intend to make the map of the human genome available to the public, despite having used information published by the international consortium in its research. Like other companies that are currently engaged in what critics call biopiracy, Celera's research is predicated on the privatization and commodification of the genetic sequences of living organisms. The uneasy truce reached during the unveiling ceremony at the White House in 2001 was thus indicative of future contests over the corporate expropriation of plant, animal, and microbial species.⁶⁵

A number of critics have complained at Zadie Smith's refusal to resolve the final scene of her novel clearly. Having depicted the return of the eugenic past, why does she not take a clearer stand on the impact of this return? Yet this criticism misses the novel's main point: it is impossible to offer any final verdict on the impact of biotechnology at this early date. For while *White Teeth* can warn us against facile liberal models of multiculturalism by highlighting the disturbing return of an age of eugenics, it cannot predict the outcome of this return. How do we balance the closely interwoven utopian and dystopian potentials of the new biotechnologies? What will it mean to be a human being in a world where babies are genetically designed in the womb? How will we retain the sense of common humanity necessary for viable democracy when

people are identified, stereotyped, and discriminated against on the basis of their genotype? Will the governments of the world allow a market-oriented wave of eugenics to deepen the already wide chasm that divides the rich and the poor and to expand the brutal exploitation of animals around the world? It is still far too early to answer such questions. Whatever the future holds, we need to face the ethical dilemmas that biotechnology will increasingly place before us with a clear awareness of the dystopian history of such technologies. Zadie Smith's *White Teeth* reminds us of this history and hints at its saliency for conflicts to come.

